

# Leyard MGS Series Outdoor Fine Pixel Pitch LED Display

Leyard® MGS Series outdoor fine pixel pitch LED displays feature a die-casting aluminum structure and waterproof Glue on Board (GOB) technology that withstands harsh outside environments. Displays have an energy-saving cooling structure, and redundant power/data backup. They are ready for High Dynamic Range (HDR) content making them ideal for applications such as DOOH advertising, retail, outdoor media, billboards, airports and train stations, etc.





IP65 Waterproof Resists weather and maintains performance



MicroLED Flip Chip Ultra-high contrast ratio and deep black levels



Wide Viewing Angle Expansive viewing angles enhance visual clarity



Heat Dissipation

Long lifespan, stable performance

and energy efficiency



positioning, optimal viewing

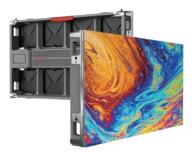
6 Axis Adjustment Precision alignment, versatile



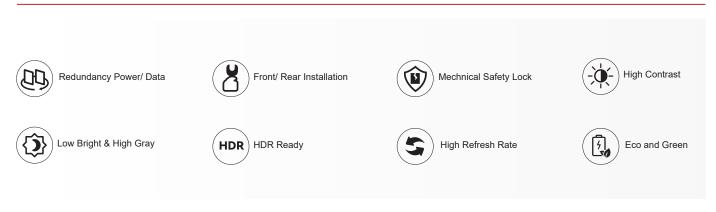
2-Year Warranty Leyard LED Standard Limited Warranty

#### • 1.2, 1.3, 1.5, 1.6, 1.8 & 2.0mm pixel pitches

- MicroLED flip chip technology with high contrast ratio
- IP65 completely protective layout plus mechanical safety locks
- · Easy installation and quick leveling for cabinets splicing and maintenance
- · Efficient cooling system for better heat dissipation and energy-saving
- Redundant power/data backup and HDR ready display

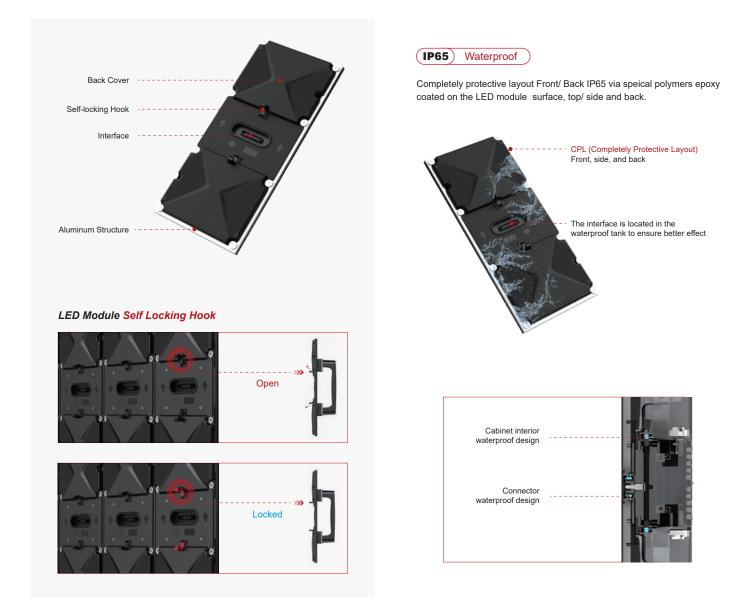


#### **Key Features**



#### Module Safety Enhancement (Double Spring + Self-locking Hook)

The LED modules are fully enclosed and packaged with polymer materials with excellent weather resistance (CPL process). To eliminate the hidden danger caused by magnetic adsorption of modules, mechanical locking with double spring + self-locking hook is adopted, and this double insurance design can ensure safety.

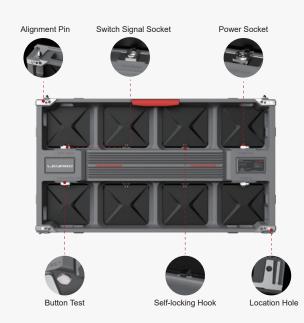


#### Scientific and Reasonable Layout Highlighting the Aesthetics of Technology

> Supports dual receiving card backup and dual power supply backup. Power input AC100~240V (50-60Hz), in order to reduce strong current interference, the power supply uses bottom in top out;

> Stable and reliable, the distance between strong and weak electric socket is greater than 300mm, and between the module and the drive plate using a floating plug-in, with a Mosaic correction function, it's more stable for connection.



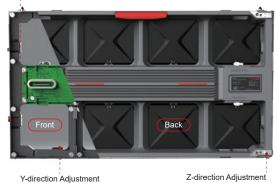


#### Quick Leveling Easy Installation

> 6 axis smoothness adjustment.

> Full front maintenance and the front & rear installation.

X-direction Adjustment

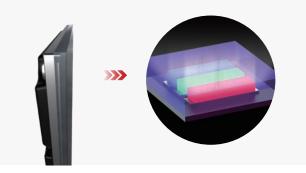


#### LED Module Full Front Maintenance



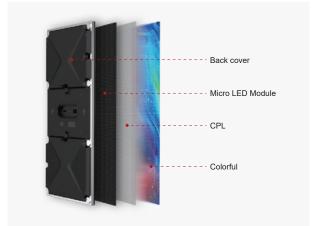
#### Protection Technology

The IC surface on the front, side and back of the module is covered perfectly by the polymer material so that it has high level protection. The side of the module is also not afraid of bumps, which solves the problem of bright line on the boundary of the glue module. The protection level reaches IP65, and the surface is anti-scraping and anti-static. It is an integral upgrade to the protection of the whole product.



#### Effective Heat Management

- > 30% lower power consumption
- > Micro LED to deliver the great visual performance
- > TUV, low blue light certification



#### Heat Sinker + High Co-efficency Cilicon O-ring

Micro LED is in full flip chip package. The light efficiency is super high. GOB to protect both the front and back for uniform heat dissipation. 3 ventilation tunnels inside of the products for better color uniformity and heat management.



### MicroLED Full Flip Chip

Using MicroLED full flip chip and leadless MIP packaging process, with high stability, high reliability (to solve the caterpillar problem), compared with conventional outdoor products Leyard MGS Series contrast increased by 1 times, brightness 3000nits-4000nits, better uniformity, lower energy consumption, and higher cost performance, so the comprehensive advantages are obvious.



### Low Bright & High Gray

The LED display achieves 16bit gray performance. The higher the gray level, the higher the picture hierarchy and brightness, and the more detailed the image can be displayed with less information loss.



#### High Refresh Rate, High Contrast Ratio

Leyard MGS Series' high refresh rates and high contrast ratios offer several advantages. A high refresh rate ensures smoother motion and reduces motion blur, resulting in a better viewing experience especially for fast-paced content like sports or action movies. Its high contrast ratio enhances the difference between the darkest and brightest content, leading to more vibrant and lifelike images with improved detail and depth.



#### **Color Rendition**

By constructing the nonlinear correction curve and color coordinate transformation coefficient matrix, the display effect is continuously improved. After the LED control system decodes the video, the secondary filtering display algorithm is added to carry out 16-bit color correction point by point for each LED on the display screen.

#### HDR - High Dynamic Range Images

More dynamic range and image detail better reflect the real environment in the visual effects. Each pixel has RGB information, as well as the actual brightness information of that point. The light surface is fully sealed, the point light source becomes surface light source, the diffusion is uniform and the view angle can be greatly increased.



#### Single Cabinet Gamut Adjustment

Because the color gamut of the LED itself is large, the color gamut of the LED can be adjusted to the same as that of the conventional LCD to meet customer requirements. When there are multiple batches of cabinets in the whole screen, you can use this function to adjust.

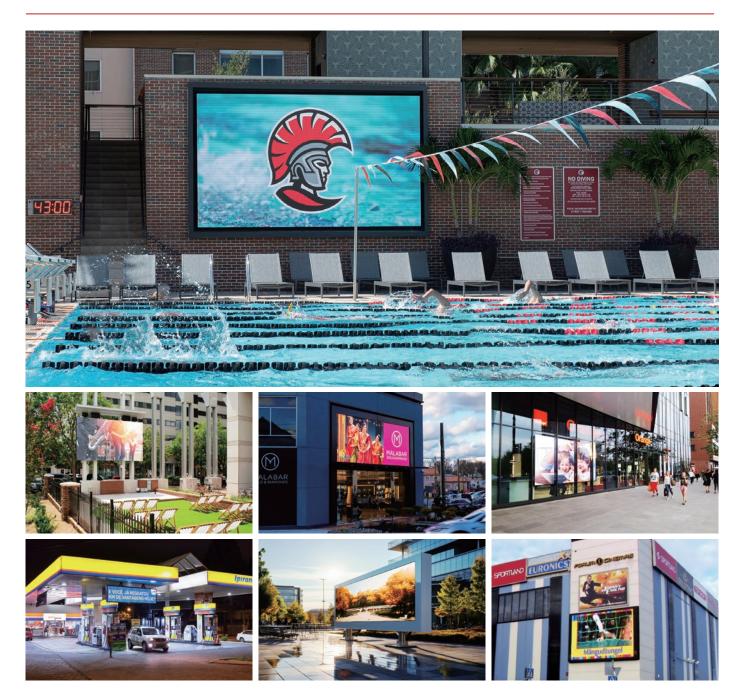


#### Industrialization Certification Global Application

Leyard MGS Series has passed the international and domestic authority of electrical, safety, electromagnetic radiation, environmental protection certificates, including CCC, CNAS, CB, CE, cTUVus, FCC, ROHS, REACH, WEEE, etc.



Leyard MGS outdoor fine-pitch LED displays feature a weatherproof design, strong durability, excellent brightness and vibrant display performance for ensuring effective communication and engaging visual experiences in any outdoor setting. It can be widely used in advertising, retail, transportation and recreational facilities.



#### Weatherproof in the Desert Heat, on Cold Peaks or at Humid Beaches







## Specifications

Řích dkůde Reackáno (M4H)1.28mm1.28mm1.33mm1.63mm1.67mm1.68mm2.00mmMedale Reackáno (M4H)128:088120:070140:023360:10286:012 <t< th=""><th>Item</th><th>MGS1.2</th><th>MGS1.3</th><th>MGS1.5</th><th>MGS1.6</th><th>MGS1.8</th><th>MGS2.0</th></t<>	Item	MGS1.2	MGS1.3	MGS1.5	MGS1.6	MGS1.8	MGS2.0
<table-container>Medde Resolvion (Web)128:288120:270104:23266:21668:19268:192Medde Compasibin (Web)4.414.414.414.414.414.414.414.41Calinet Compasibin (Web)512:288430:270416:232384:210326:000226:00Deal Densky (pasitive)512:28868:25:00416:282384:210326:000226:00Deal Densky (pasitive)512:28868:25:00416:282384:210326:000226:00Dealer Size (MebA)512:28856:25:00416:282384:210326:000226:00Calinet Resolve (MebA)512:28856:25:0056:25:00226:00226:00Calinet Resolve (MebA)56:25:0056:25:0056:25:0056:25:0056:25:00Sathes Fallenss61:55:0050:0050:0056:25:0056:25:0056:25:00Defined Mebag Agin61:55:0050:0056:0056:25:0056:25:0056:25:00Defined Mebag Agin61:55:0050:0056:0056:0056:0056:00Defined Mebag Agin61:55:0050:0056:0056:0056:0056:00Defined Mebag Agin61:55:0050:0056:0056:0056:0056:00Defined Mebag Agin61:55:0050:0056:0056:0056:0056:00Defined Mebag Agin61:55:0050:0056:0056:0056:0056:0056:00Defined Mebag Agin61:55:0050:0056:0056:00</table-container>	LED Type	Full Flip Chip 3in1					
<table-container>dade Size (MMP4 k14 k1&lt;</table-container>	Pitch	1.25mm	1.33mm	1.53mm	1.67mm	1.86mm	2.0mm
<table-container>deduk Corporation (MMP)4.4.14.4.14.4.14.4.14.4.14.4.14.4.14.4.14.4.14.4.14.4.14.4.14.4.13.10.101Cabier Resolution512.0288480.0270416.0288380.000288.088250.000Piel Carsily (uies III')640.000562.500416.088380.000288.088250.000Cabier Kings (uies III')552.500416.088380.000288.088250.000Cabier Kings (uies III')Catier Kings (Uies III')248.172.7.27VIII'VIII'Stylines Fulness (Uies III')Sitter III'Sitter III''VIII'''VIII''''''''''''''''''''''''''''''''''</table-container>	Module Resolution (WxH)	128x288	120x270	104x232	96x216	86x192	80x180
Galher Resolution52x288440x27344x128344x132320x100Pierd Danady (pixel/in/)640x000562x500448.888360,000286.666250,000Calher Size (WorkD)E40x300x70mm [25:3*1417%2.76"5555Unit AleaGalor (Size (WorkD))E40x300x70mm [25:3*1417%2.76"555Calher Size (WorkD)ESize (Size (S	Module Size (WxH)	160x360x20mm   6.3"x14.17"x0.79"					
Med Poinsky (µke/m/r)B00,000B02,000	Module Composition (WxH)	4x1	4x1	4x1	4x1	4x1	4x1
Cahard Sze (WH-b2)         640x360x70mm [25,2*x14,17:>2.76*           Uhit Aree         0.2004m² [24,81*           Caabret Weight         8.5kig [18,74b           Skrifee Flatness         0.0004m² [24,81*           Brightness Calbration         9.0           Cadr Calbration         Yes           Cadr Calbration         Yes           Cadr Calbration         0.00004000 mis           Cadr Calbration of LED Luminance Center (refer calbration)         0.0003Cx,0y within           Contraction of LED Luminance Center (refer calbration)         0.0003Cx,0y within           Contraction of LED Luminance Center (refer calbration)         0.0003Cx,0y within           Contract Ratio         0.0003Cx,0y within           Contract Ratio         0.0003Cx,0y within           Contract Ratio         0.0003Cx,0y within           Pareer Stapp (Contiguration         0.000001c           Pareer Stapp (Contiguration         0.00000000000000000000000000000000000	Cabinet Resolution	512x288	480x270	416x232	384x216	344x192	320x180
Interaction         0.2034m² [2.48*]           Gaber Weight         6.8.9.g [18.74b           Surface Flatness         9.0 mm           Brightness Calbration         Ves           Color Calbration         Ves           Gold Calbration         Ves           Gold Calbration         Ves           Gold Temperature         0.00004.000.01b           Color Temperature         0.00004.000.01b           Color Temperature         0.00004.000.01b           Color Temperature         0.00004.000.01b           Color Temperature         0.00004.000.0000K.Adjustable           Color Temperature         0.00004.000.0000K.Adjustable           Color Temperature         0.00004.000.0000K.Adjustable           Color Temperature         0.00004.000.0000K.Adjustable           Color Temperature         0.00004.000.000           Color Temperature         0.00000.000.0000K           Color Temperature         0.00000.0000.0000K           Color Statut Carument PUM diving         0.0000.000.0000K           Color Statut Carument PUM diving         0.0000.000.0000K           Color Statut Carument PUM diving         0.0000.000.0000K           Color Statut Carument PUM diving         0.0000.0000K           Color Statut Carument PUM diving         0.0000.000.0	Pixel Density (pixel/m²)	640,000	562,500	418,888	360,000	286,666	250,000
Caher Weight         8.9 ig 18.74b           Sufface Fathenss         0.0 1mm           Brightness Calibration         Yes           Color Calibration         Yes           Color Calibration         Yes           Color Calibration         Yes           Color Temperature         0.00000000000000000000000000000000000	Cabinet Size (WxHxD)	640x360x70mm   25.2"x14.17"x2.76"					
Number Barbanes         Soft March           Birghtness Calibration         Yes           Color Calibration         3000-4000 nlts           Birghtness (after calibration)         3000-4000 nlts           Color Temperature         3000-10000K Adjustable           Color Temperature         1070°           Devideon of LED Luminance Conter (after calibration)         43%           Devideon of LED Luminance Conter (after calibration)         43%           Contrast Ratio         410030Cx, Cy within           Contrast Ratio         410030Cx, Cy within           Contrast Ratio         410000-11           Contrast Ratio         210Wicabinet; 240Wim <sup>2</sup> Aug. Power Consumption (300nt)         50Wicabinet; 247Wim <sup>2</sup> Power Supply Configuration         Single power supply optionally           Drive Mode         Constant current PWM driving           Frame Rate         30800Hz           Greg Lawid         Greg Lawid           Interest Flatt         36000 List           Rates Rate         36000 List           Luterin framperature	Unit Area	0.2304m <sup>2</sup>   2.48ft <sup>2</sup>					
Bighinesc Subaron         Yes           Color Calibration         Yes           Bighinesc Subaron         S000-4000 nls           Color Temperature         170°           Verticeal Verwing Angle         170°           Deviation of LED Luminance Center (after calibration)         <3%	Cabinet Weight	8.5kg   18.74lb					
Color Calibration         Yes           Golor Calibration         3000-40000 ruls           Color Tangerature         6000-00000K Adjustable           Hotizontal Vewing Angle         170°           Verifical Vewing Angle         170°           Deviation of LED Luminance Center (effer calibration)         <3900-40000K Adjustable	Surface Flatness	≤0.1mm					
Applicitation         3000-4000 nlis           Color Temperature         3000-10000K Adjustable           Kotzontal Viewing Argie         170°           Verdoal Vewing Argie         3%0           Deviation of LED Luminance Center (after calibration)         3%7           Deviation of LED Luminance Center (after calibration)         3%7           Chromatody Uniformity (after correction)         40003Cx Cy within           Chromatody Uniformity (after correction)         10000-1           Max. Power Consumption         2000W cabinet; 217Wim <sup>2</sup> Power Supply Configuration         2000W cabinet; 217Wim <sup>2</sup> Power Supply Configuration         Constant current PWM driving           Frame Rate         Constant current PWM driving           Refresh Rate         100000 hrs           Lifetion         100000 hrs           Lifetion Chromotomesture         200 - 40°C [-1 - 104°F           Operation Temperature         200 - 40°C [-2 - 140°F           Operation Temperature         10-60%RH no conde	Brightness Calibration	Yes					
Color Temperature         3000-10000K Adjustable           Color Temperature         170°           Color Temperature         170°           Vertical Viewing Angle         170°           Deviation of LED Luminance Center (after calibration)         3%           Deviation of LED Luminance Center (after calibration)         3%           Brightness Uniformity         3%           Brightness Uniformity         3000-10000K Adjustable           Chromaticity Uniformity (after correction)         4%           Chromaticity Uniformity (after correction)         400005C, SW Within           Contrast Ratio         100000-1           Max. Power Consumption (300mit)         2010Wicabinet; 217W/m²           Power Supply         Constant current PVWM diving           Power Supply Configuration         Single power supply (dual power supply optional)           Drive Mode         Constant current PVWM diving           Grey Level         16bit           Grey Level         100.000 hrs           Lifetime         100.000 hrs           Uniterim Emperature         -02° -40°C   4-104°F           Operation Temperature         -02° -40°C   4-104°F           Operation Temperature         -02° -40°C   4-104°F           Operation Temperature         -02° -40°C   4-104°F	Color Calibration	Yes					
Naronal Viewing Angle         170°           Verical Viewing Angle         170°           Deviation of LED Luminance Center (after calibration)         43%           Brightness Luminomity         497%           Chronaticity Uniformity (after correction)         40.030XA,Cy within           Contrast Ratio         10.000XA,Cy within           Contrast Ratio         10.000XA,Cy within           Avg. Power Consumption         21.0W/cabinet; 84.0W/m³           Avg. Power Consumption (300nth)         60.000-240V (SoB0H2)           Power Supply         Constant current PWM driving           Power Supply Configuration         Constant current PWM driving           Referen Rate         60.00000 hrs           Carler Rate         100.000 hrs           Proteor Immereature         -20° 40° C  4° 104° F           Operation Temperature         -20° 40° C  4° 20° F           Operation Humidhy         10° 40° F <td>Brightness (after calibration)</td> <td colspan="6">3000-4000 nits</td>	Brightness (after calibration)	3000-4000 nits					
Vertical Viewing Angle         110°           Devide on J LED Luminance Center (after calibation)         <3%	Color Temperature	3000-10000K Adjustable					
Deviation of LED Luminance Center (after calib/ador)         <3%	Horizontal Viewing Angle	170°					
Bighness Uniformity Bighness Uniformity Environmetically Uniformity (after correction) Chromatically Uniformity (after correction) Contrast Ratio Contrast Ratio Contrast Ratio Max. Power Consumption Avg. Power Consumption (300nit) Avg. Power Consumption (300nit) Avg. Power Consumption (300nit) Power Supply Configuration Power Supply Configuration Constant Correct Constant Constant Correct Constant Cons	Vertical Viewing Angle	170°					
Chromaticity Uniformity (after correction)         ±0.003Cx.Cy within           Contrast Ratio         10000.1           Max. Power Consumption         210W/cabinet; 840W/m²           Avg. Power Consumption (300nt)         ①           Power Supply         Constant Current PWM driving           Power Supply Configuration         Single power supply (dual power supply optional)           Drive Mode         Constant current PWM driving           Frame Rate         Constant current PWM driving           Refersh Rate         100.000 hrs           Lifetime         100.000 hrs           IP Level (front/rear)         IP Constant Current PWM driving           Operation Temperature         200-40°C [ - 42 - 104°F           Operation Temperature         -200 - 40°C [ - 42 - 104°F           Storage Temperature         -300 - 60°C [ - 22 - 410°F           Storage Humidity         100-80% RH no condensation	Deviation of LED Luminance Center (after calibration)	<3%					
Contrast Ratio         10000:1           Max. Power Consumption         210W/cabinet; 840W/m³           Avg. Power Consumption (300nit)         50W/cabinet; 217W/m²           Power Supply         AC100-240V (50/60Hz)           Power Supply Configuration         Single power supply (dual power supply optional)           Drive Mode         Constant current PWM driving           Grey Level         16bit           Refersh Rate         3840Hz           Lifetrine         100,000 hrs           IP Level (front/ rear)         Post           Operation Temperature         -20 - 40°C [-4 - 104°F           Storage Temperature         -30 - 60°C [-22 - 140°F           Operaton Humidity         10-869%RH no condensation           Storage Humidity         2 years	Brightness Uniformity	≥97%					
Max. Power Consumption         210W/cabinet; 840W/m²           Avg. Power Consumption (300nit)         6000000000000000000000000000000000000	Chromaticity Uniformity (after correction)	±0.003Cx,Cy within					
Avg. Power Consumption (300nit)500W/cabinet; 217Wlm³Power SupplyAC100-240V (50/60Hz)Power Supply ConfigurationSingle power supply (dual power supply optional)Drive ModeConstant current PVWM drivingFrame RateSingle power Supply (dual power supply optional)Grey Level16bitRefesh Rate16bitLitetrne100.000 hrsIP Level (front/ rear)IP65Operation Temperature-20~40°C   4~104°FStorage Temperature0-80%RH no condensationStorage Humidity10~85%RH no condensationStorage Humidity2 years	Contrast Ratio	10000:1					
Power SupplyAC100-240V (50/60Hz)Power Supply ConfigurationSingle power supply (dual power supply optional)Drive ModeConstant current PWM drivingFrame RateConstant current PWM drivingGrey Level16bitRefresh Rate3840HzLitetime100,000 hrsIP Level (tront/ rear)Poeration TemperatureOperation Temperature-20 - 40°C   -4 - 104°FOperation Humidity10-85%RH no condensationStorage Humidity10-85%RH no condensationStorage Humidity2 years	Max. Power Consumption	210W/cabinet; 840W/m <sup>2</sup>					
Privation         Single power supply (dual power supply optional)           Drive Mode         Constant current PWM driving           Frame Rate         50860Hz           Grey Level         16bit           Refresh Rate         3840Hz           Lifetime         100,000 hrs           Power Supply configuration         100,000 hrs           Utetime         100,000 hrs           Storage Temperature         -20 ~ 40°C   -42 ~ 104°F           Storage Temperature         -30 ~ 60°C   -22 ~ 140°F	Avg. Power Consumption (300nit)	50W/cabinet; 217W/m <sup>2</sup>					
Drive Mode       Constant current PWM driving         Frame Rate       50860Hz         Grey Level       16bit         Refresh Rate       3840Hz         Lifetime       100,000 hrs         IP Level (front / rear)       IP Eso         Operation Temperature       -20 ~ 40°C   4 ~ 104°F         Storage Temperature       -30 ~ 60°C   -22 ~ 140°F         Storage Temperature       10~80%RH no condensation         Storage Humidity       10~85%RH no condensation	Power Supply	AC100~240V (50/60Hz)					
Frame Rate       50&60Hz         Grey Level       16bit         Refresh Rate       3840Hz         Litetime       100,000 hrs         IP Level (front / rear)       PE5         Operation Temperature       -20 ~ 40°C   -4 ~ 104°F         Storage Temperature       10~80%RH no condensation         Storage Humidity       10~85%RH no condensation         Warranty       2 years	Power Supply Configuration	Single power supply (dual power supply optional)					
Grey Level       16bit         Refresh Rate       3840Hz         Lifetime       100,000 hrs         IP Level (front/ rear)       IP 65         Operation Temperature       -20 ~ 40°C   -4 ~ 104°F         Storage Temperature       10-80%RH no condensation         Operation Humidity       10 ~ 85%RH no condensation	Drive Mode	Constant current PWM driving					
Refresh Rate       3840Hz         Lifetime       100,000 hrs         IP Level (front/ rear)       IP65         Operation Temperature       -20~40°C   -4~104°F         Storage Temperature       -30~60°C   -22~140°F         Operation Humidity       10~80%RH no condensation         Storage Humidity       2 years	Frame Rate	50&60Hz					
Lifetime100,000 hrsIP Level (front/ rear)IP65Operation Temperature-20~40°C   -4~104°FStorage Temperature-30~60°C   -22~140°FOperation Humidity10~80%RH no condensationStorage Humidity10~85%RH no condensation	Grey Level	16bit					
IP Level (front/rear)     IP65       Operation Temperature     -20 ~ 40°C   -4 ~ 104°F       Storage Temperature     -30 ~ 60°C   -22 ~ 140°F       Operation Humidity     10~80%RH no condensation       Storage Humidity     10~85%RH no condensation       Warranty     2 years	Refresh Rate	3840Hz					
Operation Temperature     -20~40°C   -4~104°F       Storage Temperature     -30~60°C   -22~140°F       Operation Humidity     10~80%RH no condensation       Storage Humidity     10~85%RH no condensation       Warranty     2 years	Lifetime	100,000 hrs					
Storage Temperature     -30 ~ 60°C   -22 ~ 140°F       Operation Humidity     10~80%RH no condensation       Storage Humidity     10~85%RH no condensation       Warranty     2 years	IP Level (front/ rear)	IP65					
Operation Humidity     10~80%RH no condensation       Storage Humidity     10~85%RH no condensation       Warranty     2 years	Operation Temperature	-20 ~ 40°C   -4 ~ 104°F					
Storage Humidity     10~85%RH no condensation       Warranty     2 years	Storage Temperature	-30 ~ 60°C   -22 ~ 140°F					
Warranty 2 years	Operation Humidity	10~80%RH no condensation					
	Storage Humidity	10~85%RH no condensation					
Certification FCC, CB, cTUVus, CE, IC, ROHS, WEEE, REACH	Warranty	2 years					
	Certification	FCC, CB, cTUVus, CE, IC, ROHS, WEEE, REACH					

Planar is a trademark of Planar Systems, Inc. All other trademarks and service marks are property of their holders. Copyright © 2024 Planar Systems, Inc. All right served. This document may not be copied in any form without permission from Planar. Information in this document is subject to change without notice. 07/2024